
ENVIRONMENTAL Fact Sheet



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Greywater: Keep It Out of Surface Waters

Greywater, like other pollutants, degrades the quality of water and limits or prevents its use. Greywater is laundry, dish, and bath water; while toilet water is referred to as "black water." Greywater, with its adverse affects on aquatic life and public health, impacts drinking water supplies, recreational activities, and wildlife.

Typically, greywater exhibits a much faster rate of decomposition, a process that degrades water quality. The faster rate means some of the initial polluting effects of greywater are significantly higher than that of black water. In addition to decomposition, the concentration of pathogens, nutrients, and chemicals also contribute to degrading the quality of the receiving water.

Although black water generally contains more disease-causing organisms, many of these organisms can be found and persist in greywater and water contaminated with greywater. Some familiar organisms include coliform bacteria; fecal coliforms, including *E. coli*; *Salmonella* species; staphylococci species; viruses, including polioviruses and hepatitis virus A; and possibly *Giardia* cysts. The likelihood of these and other organisms subsisting in greywater increases with the presence of sick individuals or young children with diapers being laundered.

The nutrients, particularly phosphorus, found in greywater can increase plant growth, including algal growth. Nitrogen does not compose a significant portion of greywater, as it does with black water, however phosphorus levels in greywater often exceed that of black water. Detergents contribute the majority of this phosphorus, which is why detergent manufacturers have been required to eliminate the use of phosphorus in many types of detergents, except dish detergents.

Chemicals, especially organic chemicals, cause a wide range of toxic effects on fish and aquatic life, including tumors and skin lesions and disruption of reproductive functions. Some of these chemicals accumulate in the environment, increasing their concentrations and their impacts. Additionally, chemicals associated with detergents, including surfactants, the active cleaning agents for most detergents, have recently been reported to disrupt normal hormonal functions. This growing concern has prompted studies into the health and ecological effects of these disruptors. However, many questions have yet to be answered about hormone disruptors, such as what concentrations in the environment cause hormone disruption and health problems? Preliminary studies to identify and list all the chemicals of concern are ongoing.

What can you do to help? Make sure that all of your plumbing is functioning properly and no waste water is discharged into surface waters. Never throw greywater overboard if boating within the territorial waters of the state. If you have any other questions or concerns about greywater, please feel free to contact Sally Soule, (603) 559-0032 or sally.soule@des.nh.gov, at the N.H. Department of Environmental Services.